

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Currently Amended) A solvent for dissolving nucleic acids, comprising:

an ionic liquid which can dissolve nucleic acids, said ionic liquid comprising:

at least one cation selected from the group consisting of imidazolium cations and pyridinium cations, and

an anion which is selected from the group consisting of $[\text{BF}_4^-]$, PF_6^- , AsF_6^- , SbF_6^- , AlCl_4^- , HSO_4^- , ClO_4^- , CH_3SO_3^- , CF_3SO_3^- , $(\text{CF}_3\text{SO}_2)_2\text{N}^-$, Cl^- , Br^- , I^- ~~a halide ion~~ and a carboxylic acid ion having a total of 1 to 3 carbons.

2. (Cancelled)

3. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein said anion is selected from the group consisting of Cl^- , Br^- , I^- ~~said halide ion~~ and said carboxylic acid ion having a total of 1 to 3 carbons.

4. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein the ionic liquid is a neutralized ionic liquid.

5. (Currently Amended) The solvent for dissolving nucleic acids of claim 1 ~~or 10~~, wherein said solvent is adapted to preserve nucleic acids or to react nucleic acids.

6. (Cancelled)

7. (Currently Amended) A method for preserving nucleic acids, comprising the step of preserving nucleic acids in a dissolved state within an ionic liquid for at least 120 hours a long term.

8-10. (Cancelled)

11. (Currently Amended) A method of dissolving nucleic acids, comprising the step of:

dissolving nucleic acids with an ionic liquid which can dissolve nucleic acids,

wherein said [[ion]] ionic liquid comprises:

at least one cation selected from the group consisting of imidazolium cations and pyridinium cations, and

an anion which is selected from the group consisting of [[BF₄⁻,]] PF₆⁻, AsF₆⁻, SbF₆⁻, AlCl₄⁻, HSO₄⁻, ClO₄⁻, CH₃SO₃⁻, CF₃SO₃⁻, (CF₃SO₂)₂N⁻, Cl⁻, Br⁻, I⁻ a halide ion and a carboxylic acid ion having a total of 1 to 3 carbons.

12. (Cancelled)

13. (Currently Amended) The method of dissolving nucleic acids of claim 11 or 12, wherein said anion is selected from the group consisting of Cl⁻, Br⁻, I⁻ ~~said halide ion~~ and said carboxylic acid ion having a total of 1 to 3 carbons.

14. (Currently Amended) The method of dissolving nucleic acids of claim 11 or 12, wherein the ionic liquid is a neutralized ionic liquid.